



AP10 Rec'd PCT/PTO 12 DEC 2005

PCT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
ATTY. DOCKET NO. 4810-66314-02

In re Patent Application of LIM, Sai K.

Serial No. 10/521,071

Group Art Unit: Not assigned yet

Filed: January 12, 2005

Examiner: Not assigned yet

For: HEMANGIOBLAST PROGENITOR CELLS

### INFORMATION DISCLOSURE STATEMENT

This Information Disclosure Statement is being filed in the manner prescribed by 37 CFR 1.97(b) - (d) to satisfy the duty under 37 CFR 1.56 to disclose to the Office information, known to individuals associated with the filing and prosecution of the subject application, which is material to the examination of the application.

In accordance with 37 CFR 1.97(g) and (h), this statement is not to be construed as a representation that a search has been made or an admission that the information cited herein is, or is considered to be, material to patentability as defined in 37 CFR 1.56(b).

This Information Disclosure Statement is being filed within three months of the filing date of a national application; within three months of the date of entry of the national stage as set forth in 37 CFR 1.491 in an international application; or before the mailing date of a first official action on the merits and therefore applicant respectfully requests consideration under 37 CFR 1.97(b).

In compliance with 37 CFR 1.98(a)(1), a list of all patents, publications, applications or other information submitted for consideration by the Office is hereby provided by way of the attached Form PTO/1449. (The Form PTO/1449 is substantially identical to the Form PTO/1449 filed

November 10, 2003 of [REDACTED] S. Patent Application No. 10/618,540.)

Pursuant to 37 CFR 1.98(d) no copies of the references are provided as these references were cited in a prior application from which priority is claimed under 35 USC 120, namely U.S. Patent Application No. 10/618,540, and as any Information Disclosure Statement submitted in the earlier application complies with 37 CFR 1.98(a) through (c).


It is respectfully requested that the information be expressly considered by the Examiner and that the references be made of record and appear among the "References Cited" on any patent to issue therefrom.

The Patent Office is hereby authorized to charge any deficiency, or credit any overpayment in fees to Deposit Account Number 19-2550.

Respectfully submitted,

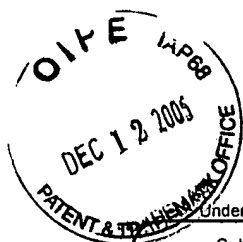
SMART & BIGGAR

Dated: December 9, 2005

  
\_\_\_\_\_  
Joy D. Morrow  
Reg. No. 30,911

Correspondence address:  
Klarquist Sparkman, LLP  
One World Trade Center, Suite 1600  
121 S.W. Salmon Street  
Portland, Oregon 97204  
Telephone: (503) 226-7391  
Facsimile: (503) 228-9446

Encls.:        Form PTO/1449  
              Acknowledgement Card



PTO/SB/08A (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 1

of 1

**Complete if Known**

Application Number	10/521,071
Filing Date	January 12, 2005
First Named Inventor	LIM, Sai K.
Art Unit	Not assigned yet
Examiner Name	Not assigned yet
Attorney Docket Number	4810-66314-02

**U.S. PATENT DOCUMENTS**

Examiner Initials *	Cite No. <sup>1</sup>	Document Number Number-Kind code <sup>2</sup> (if known)	Publication Date MM-DD-YYY	Name of Patentee or Applicant of Cited Document	Page, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US-			

**FOREIGN PATENT DOCUMENTS**

Examiner Initials *	Cite No. <sup>1</sup>	Foreign Patent Document Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
	B1	WO 00/11139 A	03/02/2000	t. Breeders, Inc.		<input type="checkbox"/>
	B2	EP 1229116 A1	08/07/2002	Center for Advanced Science and Technology Incubation, Ltd.		<input type="checkbox"/>

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, pages), volume-issue number(s), publisher, city and /or country where published.	T <sup>2</sup>
	B3	KOCHER, A.A. <i>et al.</i> (2001). Neovascularization of ischemic myocardium by human bone-marrow- derived angioblasts prevents cardiomyocyte apoptosis, reduces remodeling and improves cardiac function. <i>Nature Medicine</i> . Vol. 7(4): 430-436	<input type="checkbox"/>
	B4	MINEHATA, Ken-ichi <i>et al.</i> (2002). Macrophage colony stimulating factor modulates the development of hematopoiesis by stimulating the differentiation of endothelial cells in the AGM region. <i>Blood</i> . Vol. 99(7): 2360-2368	<input type="checkbox"/>
	B5	SCHUH, A.C. <i>et al.</i> (1999). In vitro hematopoietic and endothelial potential of flk-1 <sup>+</sup> embryonic stem cells and embryos. <i>Proc. Natl. Acad. Sci. USA</i> Vol. 96: 2159-2164	<input type="checkbox"/>

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds codes of USPTO patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04 <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a checkmark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Form PTO-1449 (Modified)	Atty. Docket No. 4810-6631	Serial No. 10/521,071
LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)	Applicant LIM, SAI K.	
	Filing Date January 12, 2005	Group

**REFERENCE DESIGNATION U.S. PATENT DOCUMENTS**

EXAM. INIT.	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FIL. DATE IF APPROPRIATE
A1	5 3 9 9 3 4 6	21/03/1995	ANDERSON ET AL.	424	93.21	30/03/1997
A2	5 5 9 9 7 0 3	04/02/1997	DAVIS ET AL.	435	373	28/10/1993
A3	5 9 8 0 8 8 7	09/11/1999	ISNER ET AL	424	93.7	08/11/1996
A4	6 4 1 0 0 1 5	25/06/2002	GORDON ET AL.	424	93.21	11/05/2000
A5	0 0 6 8 0 4 5	06/05/2002	REUBINOFF ET AL.	424	93.7	14/03/2001

**FOREIGN PATENT DOCUMENTS**

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION
A6	9 5 0 5 4 5 2	23/02/1995	WO		YES NO

**OTHER ART (including Author, Title, Date, Pertinent Pages, Etc.)**

A7	BAHARY, N., and Zon, L.I. (2001). Development. Endothelium--chicken soup for the endoderm. <i>Science</i> 294, 530-531.
A8	BUSTELO, X.R., <i>et al.</i> (1993). Developmental expression of the vav protooncogene. <i>Cell Growth Differ</i> 4, 297-308.
A9	CARMELET, P., <i>et al.</i> (1996). Abnormal blood vessel development and lethality in embryos lacking a single VEGF allele. <i>Nature</i> 380, 435-439.
A10	CHOI, K., <i>et al.</i> (1998). A common precursor for hematopoietic and endothelial cells. <i>Development</i> 125, 725-732.
A11	DAVIS, S., <i>et al.</i> (1996). Isolation of angiopoietin-1, a ligand for the TIE2 receptor, by secretion-trap expression cloning. <i>Cell</i> 87, 1161-1169.
A12	DOETSCHMAN, T.C., <i>et al.</i> (1985). The <i>in vitro</i> development of blastocyst-derived embryonic stem cell lines: formation of visceral yolk sac, blood islands and myocardium. <i>J Embryol Exp Morphol.</i> 1985; 87:27-45.
A13	DZIERZAK, E. (1999). Embryonic beginnings of definitive hematopoietic stem cells. <i>Ann N Y Acad Sci</i> 872, 256-262; discussion 262-254.
A14	FERRARA, N., <i>et al.</i> (1996). Heterozygous embryonic lethality induced by targeted inactivation of the VEGF gene. <i>Nature</i> 380, 439-442.
A15	FISCHER, K.D., <i>et al.</i> (1995). Defective T-cell receptor signalling and positive selection of Vav-deficient CD4+ CD8+ thymocytes. <i>Nature</i> 374, 474-477.
A16	GODIN, I., <i>et al.</i> (1995). Emergence of multipotent hemopoietic cells in the yolk sac and paraaortic splanchnopleura in mouse embryos, beginning at 8.5 days postcoitus. <i>Proc Natl Acad Sci U S A</i> 92, 773-777.
A17	HAMAGUCHI, I., <i>et al.</i> (1999). <i>In vitro</i> hematopoietic and endothelial cell development from cells expressing TEK receptor in murine aorta-gonad-mesonephros region. <i>Blood</i> 93, 1549-1556.
A18	HERRMANN, B.G., and Kispert, A. (1994). The T genes in embryogenesis. <i>Trends Genet</i> 10, 280-286.
A19	HROMAS, R., <i>et al.</i> (1993). Hematopoietic lineage- and stage-restricted expression of the ETS oncogene family member PU.1. <i>Blood</i> 82, 2998-3004.
A20	JIANG, Y., <i>et al.</i> (2002). Pluripotency of mesenchymal stem cells derived from adult marrow. <i>Nature</i> 418, 41-49.
A21	KATZAV, S., <i>et al.</i> (1989). vav, a novel human oncogene derived from a locus ubiquitously expressed in hematopoietic cells. <i>Embo J</i> 8, 2283-2290.
A22	KELLER, G. (2001). The Hemangioblast. In <i>Stem Cell Biology</i> , D.R. Marshak, R.L. Gardener, and D. Gottlieb, eds. (Cold Spring Harbor, Cold Spring Harbor Laboratory Press), pp. 329-348.
A23	KELLER, G., <i>et al.</i> (1993). Hematopoietic commitment during embryonic stem cell differentiation in culture. <i>Mol Cell Biol</i> 13, 473-486.

**BEST AVAILABLE COPY**

A24	KELLER, G., <i>et al.</i> (1999). Development of the hematopoietic system in the mouse. <i>Exp Hematol</i> 27, 777-787.
A25	KLEEDY, M., <i>et al.</i> (1997). A common precursor for primitive erythropoiesis and definitive haematopoiesis. <i>Nature</i> 386, 488-493.
A26	LAMMERT, E., <i>et al.</i> (2001). Induction of pancreatic differentiation by signals from blood vessels. <i>Science</i> 294, 564-567.
A27	LEVENBERG S., <i>et al.</i> (2002) Endothelial cells derived from human embryonic stem cells. <i>Proc Natl Acad Sci U S A.</i> 99, 4391-4396.
A28	LIM, S.K., <i>et al.</i> (1998). Increased susceptibility in Hp knockout mice during acute hemolysis. <i>Blood</i> 92, 1870-1877.
A29	LIN, C.S., <i>et al.</i> (1996). Differential effects of an erythropoietin receptor gene disruption on primitive and definitive erythropoiesis. <i>Genes Dev</i> 10, 154-164.
A30	MATSUMOTO, K., <i>et al.</i> (2001). Liver organogenesis promoted by endothelial cells prior to vascular function. <i>Science</i> 294, 559-563.
A31	MCKERCHER, S.R., <i>et al.</i> (1996). Targeted disruption of the PU.1 gene results in multiple hematopoietic abnormalities. <i>Embo J</i> 15, 5647-5658.
A32	MERCER, E.H., <i>et al.</i> (1991). The dopamine beta-hydroxylase gene promoter directs expression of E. coli lacZ to sympathetic and other neurons in adult transgenic mice. <i>Neuron</i> 7, 703-716.
A33	MOMBAERTS, P., <i>et al.</i> (1992). RAG-1 deficient mice have no mature B and T lymphocytes. <i>Cell</i> 68, 869-877.
A34	MOORE, M.S.A., and Metcalf, D. (1970). Ontogeny of the hematopoietic system: Yolk sac origin of <i>in vivo</i> and <i>in vitro</i> colony forming cells in the mouse embryo. <i>Br J Hematology</i> 18, 279-296.
A35	MULLER, A.M., <i>et al.</i> (1994). Development of hematopoietic stem cell activity in the mouse embryo. <i>Immunity</i> 1, 291-301.
A36	MURRAY, P.D.F. (1932). The development <i>in vitro</i> of the blood of the early chick embryo. <i>Proc Roy Soc London</i> 11, 497-521.
A37	NERLOV, C., and Graf, T. (1998). PU.1 induces myeloid lineage commitment in multipotent hematopoietic progenitors. <i>Genes Dev</i> 12, 2403-2412.
A38	NISHIKAWA, S.I., <i>et al.</i> (1998). Progressive lineage analysis by cell sorting and culture identifies FLK1+VE-cadherin+ cells at a diverging point of endothelial and hematopoietic lineages. <i>Development</i> 125, 1747-1757.
A39	ORKIN, S.H. (2001). Hematopoietic Stem Cells: Molecular Diversification and Developmental Interrelationships. In <i>Stem Cell Biology</i> D.R. Marshak, R.L. Gardener, and D. Gottlieb, eds. (Cold Spring Harbor, Cold Spring Harbor Laboratory Press).
A40	PEVNY, L., <i>et al.</i> (1991). Erythroid differentiation in chimeric mice blocked by a targeted mutation in the gene for transcription factor GATA-1. <i>Nature</i> 349, 257-260.
A41	ROBB, L., <i>et al.</i> (1996). The scl gene product is required for the generation of all hematopoietic lineages in the adult mouse. <i>Embo J</i> 15, 4123-4129.
A42	ROBERTSON, E.J. (1987). Embryo-derived stem cell lines. In <i>Teratocarcinomas and embryonic stem cells: a practical approach</i> , E.J. Robertson, ed. (Oxford, IRL Press Limited), pp. 71-112.
A43	ROGERS, M.B., <i>et al.</i> (1991). Specific expression of a retinoic acid-regulated, zinc-finger gene, Rex-1, in preimplantation embryos, trophoblast and spermatocytes. <i>Development</i> 113, 815-824.
A44	SABIN, E.R. (1920). Studies on the origin of blood vessels and of red corpuscles as seen in the living blastoderm of the chick during the second day of incubation. <i>Contributions to Embryology</i> 9, 213-262.
A45	SCOTT, E.W., <i>et al.</i> (1994). Requirement of transcription factor PU.1 in the development of multiple hematopoietic lineages. <i>Science</i> 265, 1573-1577.
A46	SHALABY, F., <i>et al.</i> (1995). Failure of blood-island formation and vasculogenesis in Flk-1-deficient mice. <i>Nature</i> 376, 62-66.
A47	SIMON, M.C., <i>et al.</i> (1992). Rescue of erythroid development in gene targeted GATA-1- mouse embryonic stem cells. <i>Nat Genet</i> 1, 92-98.
A48	SMITH, J. (1997). Brachyury and the T-box genes. <i>Curr Opin Genet Dev</i> 7, 474-480.
A49	SURI, C., <i>et al.</i> (1998). Increased vascularization in mice overexpressing angiopoietin-1. <i>Science</i> 282, 468-471.
A50	TAKAKURA, N., <i>et al.</i> (1998). Critical role of the TIE2 endothelial cell receptor in the development of definitive hematopoiesis. <i>Immunity</i> 9, 677-686.

	A51		TARAKHOVSKY, A., <i>et al.</i> (1995). Defective antigen receptor-mediated proliferation of B and T cells in the absence of Vav. <i>Nature</i> 374, 467-470.
	A52		TEICHMANN, U. (2001). Brachyury, the blastopore and the evolution of the mesoderm. <i>Bioessays</i> 23, 78-794.
	A53		WILES, M.V. (1993) Embryonic stem cell differentiation <i>in vitro</i> . <i>Methods in Enzymology</i> . 225, 900-918.
	A54		WU, H., <i>et al.</i> (1995). Generation of committed erythroid BFU-E and CFU-E progenitors does not require erythropoietin or the erythropoietin receptor. <i>Cell</i> 83, 59-67.
EXAMINER			DATE CONSIDERED

EXAMINER:

Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

JDM:RTG:jcb:aet:lsj

**BEST AVAILABLE COPY**